THE TRADE PARTNERSHIP

Analysis of the Economic Impact of the Ban on Use of Personal Watercraft by the National Park Service

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Executive Summary

Use of personal watercraft (PWC) in the United States has been adversely affected by consideration and implementation of bans on their use in U.S. national parks. The negative impacts of the bans (and of publicity associated with the bans) has resulted in lost sales since 1995, which in turn has adversely impacted U.S. producers and distributors of PWC, their suppliers, retailers and other businesses that service PWC and their users.

This report examines the national impacts of the PWC bans on output and on employment. It examines the impacts on both up- and downstream industries throughout the U.S. economy. These impacts are negative and significant.

- **The direct cost to the PWC industry** of continued uncertainty associated with the bans, and the existing bans themselves, is estimated to total about **$1.3 billion** over the last nine years**.**

- This cost affects hundreds of other sectors of the U.S. economy, bringing **the total "hit" to the American economy** of the PWC bans and the negative publicity around them to **$2.7 billion** over the last nine years.

- The estimated total costs to the U.S. economy of the bans and the negative publicity around them will continue, at a pace of more than $567 million a year, as long as the bans continue. (This estimation is based on the total costs per year calculated from 2001-2004.)

- **The employment cost** of the bans and the negative publicity around them has been growing and today averages about **3,300 direct and indirect jobs** lost across the United States. This job cost will also continue as long as the bans persist. (The estimation of this average is based on the job losses incurred after bans went into effect; from 2001-2004.)

Introduction

This report assesses the economic impacts of bans on the use of personal watercraft (PWC) by the National Park Service (NPS) throughout the park system. PWC are water vehicles more commonly known by manufacturers' brand names, including JET SKI®, WaveRunner®, AquaTrax® and Sea-Doo®. The stereotypical image of PWC—stand-up vessels powered by conventional carbureted two-stroke engines—is outdated. Today, the majority of the vessels that PWC companies manufacture and distribute are larger sit-down models that are less than 16 feet in length, seat up to three people, and have cleaner-running four-stroke and direct-injection two-stroke inboard motors. These PWC are very similar to small motorboats—indeed, they can pull a water skier. Multi-person PWC models today account for 99 percent of the market,.

Four companies currently sell PWC in the U.S. market—Honda (AquaTrax®), Kawasaki (JET SKI®), Yamaha (WaveRunner®) and BRP (Sea-Doo®)[1]. PWC manufacturers employed more than 6,000 U.S. workers directly—and thousands more indirectly—in 11 states in 2004.

[1] Two U.S. PWC manufacturers—Polaris and Arctic Cat—exited the PWC market. Arctic Cat announced its decision to cease PWC production in 1999, and Polaris in late 2004.

The Issue

PWC sales grew steadily through 1995, but have declined dramatically since then (see Chart 1). The primary reason for the decline in sales has been the bans on PWC use in most U.S. national parks.[2] Demands from environmentalists, interest groups and others for bans on the use of PWC came to a head in the mid-1990s and resulted in the 1998 publication of a proposed rule from the NPS to eliminate PWC use in most park areas.[3] However, the negative impacts on PWC sales began even earlier, when publicity about the potential bans first surfaced about two years prior to publication of the proposed rule. The proposed rule was followed in April 2000 with a final rule in which the NPS banned PWC use throughout all its parks, recreation areas and seashores, but allowed some PWC use to continue for a two-year grace period beginning November 2000 in 21 park areas where other motorized boating was prevalent.[4]

The 21 identified parks were supposed to evaluate PWC impacts during the two-year grace period and, if appropriate, reauthorize continued PWC use after the grace

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[2] We considered other possible factors that might be contributing to the decline in PWC sales since 1995, including the 2000-2001 recession, the 2002 shift in production from cheaper two-stroke models to higher-cost four-stroke models, the exit of two manufacturers from the market (see preceding footnote), and general declines in demand owed to any other factor. We believe the recession had no impact on PWC sales because the volume of PWC sales has been stable since 2001. Had the recession been a major contributing factor to sales declines since 2000, one would expect a recovery of PWC sales in 2002 and later years, which Chart 1 indicates did not take place.

We can neutralize any impact on trends in sales due to the shift to more expensive models, which began in 2002, by estimating the value of sales for 2002 onward based on the unit value of sales in 2001. In the event this shift accounts for some of the failure of PWC sales to increase after 2001, we have neutralized for it in our analysis.

Because it occurred at the very end of 2004, the exit of Polaris does not explain any of the decline in unit sales in Chart 1. The exit of Arctic Cat, which happened in late 1999, accounts for only a very small slice of the decline: Arctic Cat was the smallest "player" in the PWC market in 1999, representing only 5 percent of the market. As with the shift to higher-value PWC, we have neutralized our analysis for the impact of the exit of Arctic Cat by removing its sales completely from the data for 1995-1999.

Finally, declines in demand generally do not explain any significant amount of the drop in unit sales in Chart 1. Between 1995 and 2004, unit sales of motorized boating equipment declined at an average annual rate of 1 percent per year. In stark contrast, unit sales of lower-cost PWC declined at annual rate more than eight times as great: 8.4 percent. The PWC bans are the most plausible explanation.

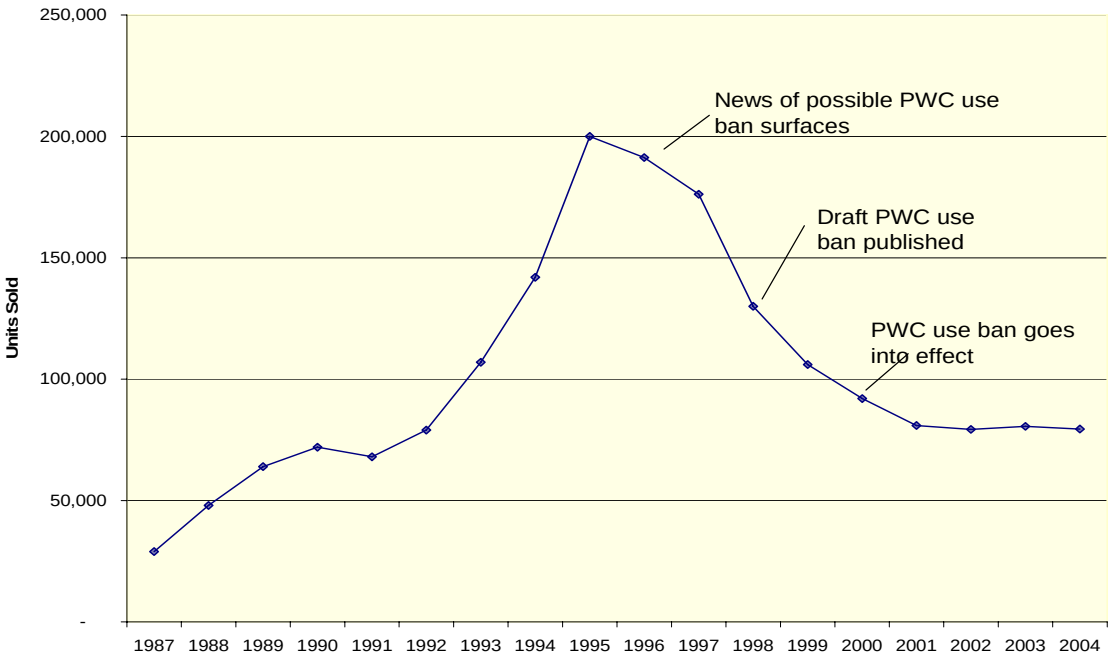
[3] Department of the Interior, National Park Service, "Personal Watercraft Use within the NPS System," Proposed Rule, *Federal Register*, Vol. 63, No. 178, September 15, 1998, pp. 49312-49317 [hereafter, "1998 Proposed Rule"].

[4] Department of the Interior, National Park Service, "Personal Watercraft Use within the NPS System," Final Rule, *Federal Register*, Vol. 65, No. 55, March 21, 2000, pp. 15077-15090 [hereafter, "Final Rule"]. The Final Rule went into effect on April 21, 2000, 30 days after publication in the Federal Register. It identified these units as units within which PWC use was presumptively appropriate and further indicated that any unit could reauthorize PWC use after conducting the requisite regulatory analyses and determining that such use would be appropriate. The confusion about which parks may reauthorize PWC use is yet another component of the uncertainty created by the Proposed and Final Rules.

period expired. A lawsuit and subsequent settlement led to a further requirement that each park conduct a full environmental and economic assessment as well as a special rulemaking before reauthorizing PWC use. Five of the 21 parks immediately indicated that they had no intention to reauthorize PWC use; the NPS committed to completing the PWC rulemaking process for the remaining 16 within the two year grace period ending in 2002. Now four years later, only 10 of these promised rulemakings have been completed.

Table 1 shows the growing incidence of PWC bans across the country since 1994 for a selection of NPS park units. The table focuses on those park units that the NPS claims account for most PWC use in national parks. The NPS says that 87 park units permit motorized boating, and claims that PWC use has been observed in meaningful amounts in 32 of these 87 units.[5] Table 1 is divided into three parts: the first lists parks that have permanently banned PWC use in or after 1994. The second part identifies park units that have banned PWC use pending the completion of the review process, and the third part identifies park units that have reopened to PWC use.

Chart 1
PWC Sales, 1987-2004



SOURCE: National Marine Manufacturers Association

[5] *Ibid.*

Table 1
Changes in Status of PWC Use in 35 National Park Units Since 1994

PWC Use Permanently Banned (Year Banned)
Everglades National Park (FL) (1994)
Canaveral National Seashore (FL) (1998)
Canyonlands National Park (UT) (1998)
Golden Gate National Recreation Area (CA) (1998)
St. Croix National Scenic Riverway (VI) (1998)
Cape Cod National Seashore (MA) (1999) **
Cape Hatteras National Seashore (NC) (1999)
Apostle Islands National Lakeshore (WI) (2000)
Biscayne National Park (FL) (2000)
Glacier National Park (MT) (fully in 2000, parts earlier)
Grand Canyon National Park (AZ) (2000)
Isle Royale National Park (MI) (2000)
North Cascades National Park (WA) (2000)
Olympic National Park (WA) (fully in 2000, parts in 1998)
Sleeping Bear Dunes National Lakeshore (MI) (2000)
Indiana Dunes National Lakeshore (IN) (2002) **
Cumberland Island National Seashore (GA) (2002) **
Delaware Water Gap National Recreation Area (PA/NJ) (2002) **
Whiskeytown-Shasta-Trinity National Recreation Area (CA) (2002) **
PWC Use Restricted, then Banned, Pending Outcome of Review (Year Banned)
Big Thicket National Preserve (TX) (2002)*
Cape Lookout National Seashore (NC) (2002)*
Curecanti National Recreation Area (CO) (2002)*
Gateway National Recreation Area (NY/NJ) (2002)*
Gulf Islands National Seashore (FL/MS) (2002)*
Padre Island National Seashore (TX) (2002)*
PWC Use Approved with Restrictions (Year of Approval)
Assateague Island National Seashore (MD/VA) (2003)*
Glen Canyon National Recreation Area (AZ/UT) (2003)*
Lake Mead National Recreation Area (AZ/NV) (2003)*
Amistad National Recreation Area (TX) (2004)*
Chickasaw National Recreation Area (OK) (2004)*
Lake Meredith National Recreation Area (TX) (2004)*
Lake Roosevelt National Recreation Area (WA) (2004)*
Bighorn Canyon National Recreation Area (MO/WY) (2005)
Fire Island National Seashore (NY) (2005)*
Pictured Rocks National Lakeshore (MI) (2005)*

* Indicates those parks that were part of the original 21 sites identified as places where use of PWC could continue pending further evaluation; **five of those 21 parks decided unilaterally to impose a ban permanently.

Not one of the park units complied with the special rulemaking requirements necessary to reauthorize PWC use within the grace period. After the grace period expired in 2002, bans went into effect[6] and slowly, over the years, some of the 16 parks began to issue the required analyses, followed by draft rules governing the resumption of limited or full PWC use, then final rules were issued. To date, however, only ten of the 16 have completed the process and reopened to PWC. The remaining six have stalled in the rulemaking process. And in addition to these national bans, local bans began to occur as local authorities followed the lead of the NPS.[7] The uncertainty created by all these closures continues to create pervasive confusion and concern throughout the country as to whether PWC owners and enthusiasts will have places to operate PWC. The perceived risks associated with the bans, as well as misperceptions of the scope and applicability of the NPS closures has had a significant adverse effect on sales.

These bans are costly to companies and workers who manufacture and distribute PWC in the United States, and to their customers, many of them small businesses, who serve PWC users. These include PWC dealers, companies that rent PWC, those that service PWC, as well as businesses that cater to PWC users–hotels, restaurants, even the parks themselves. This report quantifies these negative impacts on the economy of the PWC bans generally, and of the delay in developing rules for the restoration of PWC use in parks that are still considering their options.

Estimating the Economic Costs of the Bans

When it published its proposed rule in 1998, the NPS stated that it "expects little, if any, economic impact on PWC users or the PWC industry on a regional or national basis.... Significant impacts on commercial PWC operations in and adjacent to NPS units are not expected from this rule and a substantial number of small entities will not be affected."[8] It based this assertion on several premises that did not turn out to be true: that a grace period during which PWC use could continue would mitigate negative impacts (the grace period expired before rules restoring PWC use could be implemented, and uncertainty about the future of PWC use in a park proved to be a

[6] The only exception was the Lake Mead National Recreation Area, where park officials were about to complete the assessments just as the grace period expired. To keep PWC use from being disrupted, park officials sought and obtained short extensions of the grace period, during which time they completed their analysis and officially re-opened Lake Mead to PWC use. Lake Mead did not close while the special rulemaking process played out.

[7] For example, after the NPS agreed in 1999 to ban the use of personal watercraft at Cape Cod National Seashore, the National Parks and Conservation Association launched a Cape-wide campaign to pass similar ordinances banning PWC in the towns surrounding the park. Local bans in the waters off four towns banned PWC in 2002. *See* "PWCs Banned from Towns at Cape Cod National Parks," *National Parks*, April/May 2002.

[8] NPS, "1998 Proposed Rule," *op. cit.*

destabilizing factor the NPS did not foresee[9]); and alternative sites exist for PWC use (this did not prove to be as significant a relief for PWC users as the NPS predicted).

Subsequent economic analyses commissioned by the NPS from an independent contractor contradict these expectations, finding significant potential negative economic impacts on regions located adjacent to parks contemplating bans, and even negative *actual* impacts on those regions associated with the *potential* for bans.[10] For example, the NPS studies found that the impacts of the PWC bans have been felt most acutely at the national parks affected and the surrounding areas of those parks. For 10 parks for which economic assessments have been completed, the NPS contractor found that the costs to *downstream* industries of the ban proposed for the park analyzed ranged to as much as $44 million a year (see Table 2). The total annual cost for the 10 parks studied so far exceeds $86 million a year. The studies found that the bans impacted local economies in three ways: first, families that might have wanted to buy a new PWC to use at a local park would no longer do so. In most instances, local retailers reported to the NPS that a ban would cause their sales of PWC to fall by as much as 100 percent.[11] In addition, the publicity about the bans caused a reduction in sales of PWC.[12] Second, NPS interviews found that in many instances rental income from PWC dropped by 100

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[9] The considerable uncertainty created by the bans stems from, among other things: (1) media coverage that highlighted the imposition of the ban, but did not adequately identify the waters subject to closure; (2) the perception that the ban was a prelude to broader closures throughout the nation; and (3) the inability to differentiate federally managed waters that have been closed from state and privately controlled areas that remain open to PWC use. The sporadic reopening of a few park units to PWC use has not dispelled this uncertainty.

[10] The contractor studies actually examined the economic effects of three alternative scenarios: changes in current economic variables resulting from the end of the ban on PWC, changes in current economic variables resulting from a partial lifting of the ban on PWC use, and effects of continuation of the ban on PWC use. The first scenario is equivalent to estimating the economic impact of the ban (i.e., it is the mirror estimate of the dollar value of the impact of lifting the ban completely).

To quantify the impacts, the NPS collected data from the parks for PWC visits, both before and after the bans (in many cases from actual counts by park officials). See, for example, MACTEC Engineering and Consulting of Georgia, Inc., BBL Sciences, and RTI International, *Economic Analysis of Management Alternatives for Personal Watercraft in Bighorn National Recreation Area*, Revised Final Report, Prepared for the National Park Service, Environmental Quality Division, July 2003, Section 2.2.3, "Projected Visitation," p. 2-5 to 2-10. NPS interviewed PWC sales and rental shop owners as well as other businesses in the region that might have revenues related to PWC use in the park. The contractor then worked the declines in sales and rental income into an input-output model to estimate the impacts of the ban (technically, the impact of eliminating the ban) on downstream industries in the economies local to the parks.

[11] See, for example, MACTEC Engineering and Consulting of Georgia, Inc., BBL Sciences, and RTI International, *Economic Analysis of Personal Watercraft Regulations in Lake Mead National Recreation Area*, Final Report, Prepared for the National Park Service, Environmental Quality Division, April 2003, Section 2.6, "Economic Activity in the Surrounding Communities," p. 2-37. Each of these economic analyses follows the same outline and covers the same material.

[12] *Ibid.,* Section 3.1, p. 3-4.

percent as well.[13] Third, spending associated with PWC use would decline, including spending on hotels, food at restaurants and grocery stores, fuel and other PWC maintenance expenses, park admission and camping fees, and related state and local sales taxes.

Table 2
Estimated Downstream Annual Economic Costs of Proposed PWC Bans for Selected NPS Park Areas
2001 Dollars

Amistad National Recreation Area (TX)	$442,080
Assateague Island National Seashore (MD/VA)	78,050
Bighorn Canyon National Recreation Area (MO/WY)	489,480
Chickasaw National Recreation Area (OK)	594,230
Fire Island National Seashore (NY)	3,683,590
Glen Canyon National Recreation Area (AZ/UT)	44,366,900
Gulf Islands National Seashore (FL/MS)	6,718,640
Lake Mead National Recreation Area (AZ/NV)	27,426,350
Lake Meredith National Recreation Area (TX)	2,412,860
Lake Roosevelt National Recreation Area (WA)	168,410
Total, 10 analyses issued so far	**$86,380,590**

Source: MACTEC Engineering and Consulting of Georgia, Inc., BBL Sciences, Inc. and RTI International Health, Social and Economics Research, Table 3-5, various reports. Study commissioned by NPS.

The impacts of the bans would be partly mitigated if PWC users could find alternative locations to enjoy PWC, and the NPS presumed that such alternatives would limit the costs to PWC retailers and others.[14] However, the NPS overestimated the degree to which alternative sites for PWC use are available as well as the ability of users to identify areas open to PWC use. In many cases the parks are unique recreational destinations in the region and there are few alternative locations for PWC recreation. This is an important reason why subsequent NPS analyses found such significant costs associated with the bans. In addition, even when an alternative venue is currently available for PWC use, potential purchasers cannot be sure that their access to that venue will not be similarly restricted in the future, and thus sales of PWC generally have suffered, even in areas not adjacent to parks with restrictions.

[13] *Ibid.,* Section 3.1, p. 3-5 and 3-6.

[14] NPS, "1998 Proposed Rule," *op. cit.*

As noted, the NPS-commissioned assessments only estimate the *downstream* impacts of the bans. These are the effects on PWC retailers who sell, service or rent PWC; motels, hotels, cabins and B&Bs; camping fees; restaurants and bars; grocery/take-out stores; gas stations; providers of local transportation; park admissions and fees; clothing, sporting goods, souvenir and other retailers. In addition, the bans have had a negative impact beyond economies nearest the parks, an impact not measured by the NPS studies. As a consequence of the decline in retail sales of PWC, *U.S. production* of PWC has dropped and with it, a reduction in orders from PWC manufacturers for raw materials, for example. Thus, as large as the estimates are, they still understate the true impact of the bans on the U.S. economy because they do not include these *upstream* impacts.

Estimating the Full Impacts of the PWC Bans on the U.S. Economy

Chart 1 shows that PWC sales have declined significantly in the face of actual or potential bans. The decline in sales volume grew annually from 1996-2001, stabilizing at about 80,000 units thereafter. Sales *volumes* in the 2002-2004 period are just 40 percent of the volume of sales in 1995, prior to adverse publicity about the potential for bans.[15] That 40 percent share, which represents just under 80,000 units, likely represents the level of PWC sales that continue in the face of actual or pending bans because families have alternative venues to use their PWC.

Economists typically use "input-output (I/O) analysis" to estimate the up- and downstream impacts of, in this case, the decline in spending on PWC that has resulted since 1998. I/O tables show how industries interact. Specifically, they show how industries provide input to, and use output from, each other to produce Gross Domestic Product (GDP). I/O tables provide detailed information on the flows of the goods and services that comprise the production process of industries.

To expand the NPS I/O analyses to capture the upstream as well as the downstream costs of the PWC bans to the U.S. economy as a whole, we used the most recent detailed national input-output table published by the Bureau of Economic Analysis (BEA) of the U.S. Department of Commerce.[16] It reports a "snapshot" of all transactions within the economy at a given point in time (1997) for 495 sectors of the U.S. economy. The I/O table used for this analysis, the so-called "Total

[15] We have neutralized the effects of other potential negative factors, such as the exit from the market of Arctic Cat in 1999 (see footnote 2 above) and the shift to higher-cost PWC in 2002, that might explain some of the decline. We neutralized the effect of the exit of Arctic Cat (by subtracting all of Arctic Cat's PWC sales for every year from 1995-1999) from the inputs to the modeling that follows in this report. We neutralized the value data used in our modeling for this shift to higher-cost PWC in 2002.

[16] BEA publishes these tables every five years, and 1997 is the most recent set of tables available for detailed analysis of the U.S. economy. The 2002 study has not yet been released to the public.

Requirements" table, shows the production that is required, directly and indirectly, from each industry and each commodity to deliver a dollar of a commodity to final users. In other words, it shows how much economic activity is generated in other industries to deliver a dollar of PWC production (or value added to imported PWC) to final consumers. To use it, we need to know the value of the sales lost to the PWC bans for each year since 1995 (for imported PWC, we need to know the value added to the wholesale value of imports). These values are deflated (using the producer price index specific to the industry classification category for PWC manufacturing), the industry multipliers are applied, and then the results are inflated back to dollars current for the year analyzed.

Just as the Commerce Department publishes I/O tables that enable us to calculate the up and downstream impacts of a change in sales across industries, so the Bureau of Labor Statistics (BLS) publishes a comparable tool for employment analysis. BLS bases these "employment requirements" tables on BEA's I/O tables. The tables show industry employment supported directly and indirectly per million dollars of sales of, in this instance, PWC. They enable us to calculate the employment costs associated with the direct output losses. We used all of the employment requirements tables published by BLS—i.e., those for 1997 (reflecting productivity during 1997) to calculate employment impacts for 1996-2001; for 2001 (reflecting productivity relationships in 2001) to calculate employment impacts for 2001, and for 2002 (reflecting productivity relationships in 2002) to calculate employment impacts for 2002-2004.

Table 3 reports the up and downstream costs associated with these declines in PWC sales since 1995. **The *total* cost to the U.S. economy to date of the bans (proposed and actual) is $2.7 billion** (see column two of Table 3).[17] It arises from the loss of sales of U.S.-produced PWC, and the loss of value added stemming from the sales of imported PWC, which totaled $1.3 billion over the last nine years (column 1). For every year the bans persist, or uncertainty about new or permanent bans persists, the total up- and downstream cost to the economy averages about $567 million a year (based on the 2001-2004 period, the period during which unit sales of PWC have stabilized).

[17] The results measure the up- and downstream impacts from the 1995 benchmark of the decline in sales of U.S.-produced PWC (wholesale value) and the gross margin associated with the loss of sales (wholesale value) of imported PWC and U.S.-produced PWC. Transportation margins were not included and therefore the results underestimate the value of the costs of the PWC sales declines.

Table 3
Estimated Total Economic Impact on the U.S. Economy: Losses of Economic Activity and Jobs Associated with PWC Bans

	Direct Impact on PWC Industry* *(millions)*	Total Impact on Entire Economy** *(millions)*	Loss of Jobs *(number)*
1996	$61.5	$145.1	694
1997	133.7	314.6	1,518
1998	-146.4	-308.5	-2,307
1999	-93.5	-172.3	-1,921
2000	-195.7	-410.2	-3,124
2001	-294.3	-631.4	-3,720
2002	-313.9	-675.2	-3,636
2003	-217.6	-450.9	-2,778
2004	-243.7	-510.9	-3,022
Total	**-$1,309.8**	**-$2,699.6**	n.a.***

* Represents *net* declines from 1995 baseline in *value* of domestic production and in value of retail margins associated with sales of domestically-produced and imported PWC. The negative impact on the value of PWC sold in 1996 and 1997 was felt solely by imported PWC; U.S. producers of PWC did not see a negative impact on the *value* of sales until 1998. Moreover, the negative impact on imports was outweighed by increases in the value of sales of U.S.-produced PWC in 1996 and 1998, so the net total reported in this table is positive rather than negative.

** Associated up- and downstream impacts of declines reported in first column of this table, using BEA multipliers.

*** The employment estimates are cumulative, and therefore the column should not be summed. In other words, each year reflects the loss in employment reflecting the loss in sales of PWC between the given year and 1995.

Table 3 also shows that the declines in PWC sales that have escalated since 1995 have had a growing negative impact on employment throughout the U.S. economy.[18] These include not only PWC-manufacturing related jobs, but jobs throughout the U.S. economy that are associated with producing, selling and using PWC.[19] **Jobs lost have exceeded 3,500 in some years, and currently average about 3,300 for every year the bans continue**.

[18] Some mitigation of employment loss during years in which the losses resulting from declines in PWC sales increased are explained by improvements in productivity reflected in new versions of the employments requirements tables.

[19] These results are consistent with the findings of the MACTEC studies done for the NPS. The 10 studies completed to date by that contractor estimated that the negative impact of the ban on employment in downstream sectors alone totals 1,700. For example, the downstream impacts alone calculated using the employment requirements table for 2002 result in estimates of job losses of about 2,300 nationwide. An analysis

(footnote continued)

Our results are conservative. First, we measure the loss in sales from 1995 assuming that PWC sales would not have grown by so much as one unit from the 1995 level. The average annual rate of growth of non-PWC motor boat sales was stable from 1995 to 2000, declined from 2001-2003, and was strongly positive again in 2004 (based on units sold). The economy expanded briskly from 1995-2000, and one would assume that PWC sales would have tracked those of motor boats generally, or even exceeded it as PWC are less expensive than boats. Second, we removed from the base data any factor that might independently have contributed to a change in the value of sales, including the exit of one producer from the market in 1999 (we removed its sales completely from the data for the 1995-1999 period), and the shift beginning in 2002 to larger, more technologically advanced and expensive PWC (we used unit values for 2001 to calculate sales values for 2002-2004). Retail prices of PWC in 2001 averaged $7,929 compared to $9,226 in 2004.[20] Measuring the impacts of the bans on total PWC sales values (increasing during the 2002-2004 period) would lead to the incorrect conclusion that the bans were no longer negatively impacting PWC sales in those years, which in terms of units were flat (see Chart 1).

Conclusion

This analysis demonstrates that the negative publicity associated with the PWC bans and the bans themselves have had a significant negative impact on the U.S. economy and on U.S. jobs. Economic losses total $2.7 billion, and more than 3,000 jobs have been lost.

Our analysis also shows that these negative economic impacts will continue as long as the bans, and the uncertainty surrounding them, persist. Every year the issue festers, the U.S. economy loses about $567 million in income and 3,300 job opportunities. Those costs are borne not only by PWC manufacturers/distributors, most of whom are located around the country, but also by distributors, retailers, restaurants, hoteliers and others. Many of these related businesses are small businesses whose bottom line depends on selling or renting PWC to families who want to use them in the targeted national parks.

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that includes up- as well as downstream impacts, and covers all of the national parks, would certainly reach the levels calculated in Table 3 of this report.

[20] National Marine Manufacturers Association, *2004 Recreational Boating Statistical Abstract*, Table 3.1.